

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (canceled)
2. (currently amended) A method for processing communication at a node in a communication system comprising:
receiving at said node a series of fixed-length data frames over the
communication system, including receiving a plurality of data streams multiplexed in the series
of fixed-length frames, each of the data streams originating from a corresponding one of a
plurality of sources of data in the communication system and at least two of said data streams
originate from a same source of data;
for each of the series of fixed-length frames, identifying a plurality of offsets
within said fixed-length frame, each of said offsets being associated with a different one of the
plurality of sources of data, The method of claim 1 wherein identifying the offsets within a fixed-
length frame includes accessing overhead data encoded in said frame to identify offsets that each
characterizes a displacement relative to the start of the frame that is associated with a different
one of the sources of data; and
processing the data streams multiplexed in the series of fixed-length frames,
including, for each of the data streams, in each of the series of fixed-length frames, processing
said data stream according to the offset identified for said frame that is associated with the source
of said data stream.

3. The method of claim 2 wherein processing the data streams further includes extracting the one or more of the data streams from the series of fixed-length frames for transmission from the communication network.

4. The method of claim 2 further comprising receiving a plurality of data streams, and multiplexing said data streams into a second series of fixed-length data frames for transmission over the communication network, wherein multiplexing said data streams includes computing an offset for each of the second series of fixed-length data frames and storing data for each of the received data streams according to the computed offset.

5. The method of claim [1]2 wherein the communication system comprises a SONET network and receiving each of the series of fixed-length data frames includes receiving a SONET synchronous payload envelope (SPE) transported in the series of SONET transport frames.

6. The method of claim 2 wherein receiving a SONET SPE includes receiving a concatenated payload envelope.

7. The method of claim 2 wherein identifying the plurality of offsets for each fixed-length data frame includes using data encoded in an SPE to identify offsets which each characterizes a displacement relative to the start of the SPE that is associated with a different one of the sources of data, each source of data corresponding to a different node in the communication network.

8. The method of claim 7 wherein identifying an offset which characterizes a displacement relative to the start of the SPE includes identifying SONET row offsets within the SPE.

9. The method of claim 8 wherein processing the data streams includes identifying a range of SONET columns associated with each one or more of the data streams and identifying row offsets for each of said data streams according to the row offsets within the SPEs associated with the source of said data stream.

10. The method of claim 9 wherein processing the data streams further includes extracting the one or more data streams from the series SPEs for transmission from the SONET network.

11. The method of claim 9 wherein processing the data streams further includes multiplexing said data streams in a second series of SPEs for transmission in a second series of transport frames, and transmitting the second series of fixed-length frames over the communication system, wherein multiplexing the data streams includes storing a plurality of row offsets in each of the second series of SPEs, in each SPE each row offset corresponding to a different source node in the SONET network, and multiplexing the data streams further includes storing data for each data stream in the second series of SPEs to maintain a same relationship to the row offset correspond to the source node as that data had to the row offset corresponding to the source node in the series of SPEs received over the communication network.

12. The method of claim 11 further comprising identifying a column offset associated with each source of data, and wherein multiplexing the data streams in the second series of SPEs includes determining columns in the second series of SPEs to multiplex each data stream according to the columns used by those data streams in the received series of SPEs and the column offsets.

13. The method of claim 8 further comprising receiving a plurality of data streams, and multiplexing said data streams into a second series of SPEs for transport over the SONET network, wherein multiplexing said data streams includes computing a row offset for each of the

second series of SPEs and storing data for each of the received data streams according to the computed row offset.

14. (canceled)

15. A communication device comprising:

means for receiving at said node a series of fixed-length data frames over the communication system, including receiving a plurality of data streams multiplexed in the series of fixed-length frames, each of the data streams originating from a corresponding one of a plurality of sources of data in the communication system and at least two of said data streams corresponding to a same source of data;

for each of the series of fixed-length frames, means for identifying a plurality of offsets within said fixed-length frame, each of said offsets being associated with a different one of the plurality of sources of data, wherein the means for identifying the offsets within a fixed-length frame includes means for accessing overhead data encoded in said frame to identify offsets that each characterizes a displacement relative to the start of the frame that is associated with a different one of the sources of data; and

means for processing the data streams multiplexed in the series of fixed-length frames, including, for each of the data streams, in each of the series of fixed-length frames, processing said data stream according to the offset identified for said frame that is associated with the source of data corresponding to said data stream